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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,744	10/22/2001	Dirk Quintens	27500-10	8435

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EXAMINER

TSOY, ELENA

ART UNIT	PAPER NUMBER
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1762

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DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,744

Applicant(s)

QUINTENS ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Specification

1. The disclosure is objected to because of the following informalities: page 8, line 15, "kaolin" should be changed to "kaolin".

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-3** are rejected under 35 U.S.C. 102(e) as being anticipated by Sekiguchi (US 6,485,812).

Sekiguchi discloses a method for the preparation of an ink jet recording sheet comprising coating on at least one side of a support at least one ink-receiving layer (layers (a) and (b)) comprising fine inorganic particles (inorganic pigments) (See Abstract) such as silica (See column 8, lines 36, 49-50; column 9, lines 28-33) at a solid weight % of 50 to 99.9 of the total solid weight of the layer (See column 12, lines 31-35) and a binder resin (See Abstract; column 5, lines 13-16) containing a water-soluble polymer such as hydroxyethyl (ether) cellulose (See column 11, lines 60-65), characterized in that a plurality of layers (layers (a) and (b)) are simultaneously coated in a wet-on-wet fashion (See column 17, lines 44-45).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 4-6, 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of Cousin et al (US 4,554,181).

Sekiguchi, as applied above, fails to teach that the water-soluble polymer is a cationic polymer (Claim 4) such as nitrogen containing cationic polymer (Claim 5), e.g. poly(diallyldimethylammonium chloride) (Claim 6) or polyamine (Claim 9).

Cousin et al teach that coatings comprising nitrogen containing cationic polymers such as poly(diallyldimethylammonium chloride) or polyamine (See column 5, lines 19-21) on a recording sheet provide non-offsetting images good and water fastness since the cationic polymers insolubilize anionic dyes (See column 2, lines 34-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used nitrogen containing cationic polymers such as poly(diallyldimethylammonium chloride) or polyamine as water-soluble polymer in a method of Sekiguchi with the expectation of providing the desired non-offsetting images good and water fastness, as taught by Cousin et al.

6. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of Cousin et al (US 4,554,181), as applied above, and further in view of Rabasco (US 6,455,134).

Sekiguchi in view of Cousin et al, as applied above, fails to teach that the cationic nitrogen containing polymer is copoly(vinylalcohol-vinylacetate-diallyldimethylammonium chloride).

Rabasco teaches that coatings comprising cationic nitrogen containing polymers such as a copolymer of vinylacetate, diallyldimethylammonium chloride and vinylalcohol (See column 4, lines 9-13, 24-25, 41-42, 47, 52, 57-63) provide an ink recording paper with improved functions such as good water and light fastness (See column 1, lines 6-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a copolymer of vinylacetate, diallyldimethylammonium chloride and vinylalcohol as a cationic nitrogen containing polymer in a method of of Sekiguchi in view of Cousin et al for the preparation of an ink jet recording sheet with the expectation of providing the ink jet recording sheet with the desired improved functions such as good water and light fastness, as taught by Rabasco.

7. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of Cousin et al (US 4,554,181), as applied above, and further in view of Malhotra et al (US 5,693,410).

Sekiguchi in view of Cousin et al, as applied above, fails to teach that the cationic nitrogen containing polymer is cellulose 2-hydroxyethylether polymer with N,N-dimethyl, N-2 propenyl-2 propene-1-ammoniumchloride.

Malhotra et al teach that coatings comprising cationic nitrogen containing polymers such as diethylammonium chloride hydroxyethyl (ether) cellulose (See column 23, lines 22-26) provide the ink receiving transparencies and papers with many advantages such as excellent water fast and lightfast images (See column 1, lines 6-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used diethylammonium chloride hydroxyethyl (ether) cellulose as a cationic

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nitrogen containing polymer in a method of Sekiguchi in view of Cousin et al for the preparation of an ink jet recording sheet with the expectation of providing the ink jet recording sheet with the desired advantages such as water fast and lightfast images, as taught by Malhotra et al.

It is held that compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH₂- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. In re Wilder, 563 F.2d 457, 195 USPQ 426 (CCPA 1977). See also In re May, 574 F.2d 1082, 197 USPQ 601 (CCPA 1978) (stereoisomers prima facie obvious).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used any isomer of hydroxyethyl (ether) cellulose including 2-hydroxyethyl (ether) cellulose and homologue of diethylammonium chloride including dimethylammonium chloride in a method of Sekiguchi in view of Cousin et al, further in view of Malhotra et al for the preparation of an ink jet recording sheet with the expectation of providing the ink jet recording sheet with the desired advantages such as water fast and lightfast images, since it is held that compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH₂- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties.

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8. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of Mueller (US 4,098,742).

Sekiguchi, as applied above, fails to teach that the static surface tension of a top layer (b) is lower than the static surface tension of a layer (a).

Mueller teaches that it is a commonly known that a coating formulation having surface tension higher than that of a substrate does not wet the substrate (See column 1, lines 35-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formulated a composition for a top layer (b) in Sekiguchi so that a surface tension of the top layer (b) composition is lower than a surface tension of the surface of a layer (a) with the expectation of providing the desired wetting since Mueller teaches that it is a commonly known that a coating formulation having surface tension higher than that of a substrate does not wet the substrate.

9. **Claims 11, 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of Van den Zegel (US 5,693,370).

Sekiguchi, as applied above, fails to teach that the layers are coated simultaneously wet on wet using a slide-hopper coating technique (Claim 11) or a curtain coating technique (Claim 12).

Van den Zegel teaches that a slide-hopper coating technique or a slide-hopper curtain coating technique can be used for applying hydrophilic layers simultaneously in wet on wet fashion.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used slide-hopper coating technique or by the slide-hopper curtain coating

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technique for applying simultaneously wet on wet a plurality of layers in a method of Sekiguchi since Van den Zegel teaches that slide-hopper coating technique or slide-hopper curtain coating technique can be used for applying hydrophilic layers simultaneously in wet on wet fashion.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (703) 605-1171. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

ET

Elena Tsoy
Examiner
Art Unit 1762

June 9, 2003



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